## Classification Metrics **START HERE Selection Guide** Multiclass problem? See the "Extending Metrics to Not sure about the answers to these questions? Multiclass Problems" article. Try using the binary branch ("NO," to the right), Check out these other course resources to learn more: but you will likely need an extension (e.g. ROC AUC OVR, macro-averaging, etc.). • Review the course videos for individual metrics Hard or soft • Read the Choosing the Best Metrics: "Case Studies" article classifications? • Watch the Conclusion: "Course Conclusion and Cheat Sheet" video Specific dollar amounts for confusion matrix? See the "Case Studies" article. Follow the answer of Case III to learn Need about creating your own custom metric rankings or actual defined by your problem's associated costs and profits. Class imbalance? probabilities? On a scale of 0 to 3, Rankings **Probabilities →** 3 0 + How important Not Extremely is preventing important **ROC AUC LOG LOSS** FPs vs FNs? fill in the following importance levels for preventing FP/FN. All errors equal? Check class imbalance. Note: Recall emphasizes FNI; precision emphasizes FPI. Try PR AUC ("Classification Metrics by Other Names") Compare against a dummy classifier baseline if (Are FP and FN equally important?) False Positive False Negative if class imbalance proves challenging. Importance (FNI) Importance (FPI) RECALL ssumes FP truly don't matte Either zero? FPI=O Best model may set decisior threshold very low yielding **ACCURACY** Compute ratio: FNI/FPI **PRECISION** ssumes FN truly don't matte FNI/FPI = 1 FNI/FPI ≤ 0.33 0.33 < FNI/FPI < 1 1 < FNI/FPI ≤ 2 FNI/FPI > 2 Best model may set decisior threshold very high with very few predicted positives. -SCORE F -SCORE F -SCORE F-SCORE F\_SCORE Both FP and FN are equally This metric emphasizes This metric emphasizes This metric emphasizes This metric emphasizes Learn more at precision roughly 4x recall, which is about the most that recall roughly 3x precision drkimdata.com nough neither are complete nough neither are completel disregarded. disregarded.